LINKSYS

Broadband Networking

www.linksys.com

If you are doing a brand new setup, please use the Fast Start guide to get you up and running quickly!

Fast Start
Wireless-B
Broadband Router

Step 2: Configure the PCs

In Step 2, you will configure each of your computers to communicate with the Router.

To do this, you will need to configure your PC's network settings to obtain an IP (or TCP/IP) address automatically. Computers use IP addresses to communicate with each other across a network or the Internet.

Find out which operating system your computer is running, such as Windows 95, 98, Millennium, 2000, or XP. You will need to know which operating system your computer is running. You can find out by clicking the **Start** button and then selecting the **Settings** option. (If your Start menu doesn't have a Settings option, you're running Windows XP. You can select the Control Panel directly from the Start Menu.) Then, click **Control Panel** and double-click the **System** icon. Click the **Cancel** button when done.

Once you know which Windows operating system you are running, follow the directions in this step for your computer's operating system. You may need to do this for each computer you are connecting to the Router.

The next few pages tell you, step by step, how to configure your TCP/IP settings based on the type of Windows operating system you are using. Once you've configured your computers, continue to Step 3: Configure the Router.

If you are running:
Windows 95, Windows 98, Windows Millennium

A. Click the **Start** button, click **Settings** and open the **Control Panel**. From there, double-click the **Network** icon to open the Network screen.

B. Select the Configuration tab and highlight the **TCP/IP line** for the applicable Ethernet adapter." If the word TCP/IP appears by itself, select that line." Then, click the **Properties button.**

C. Click the **IP Address** tab and select **Obtain an IP address automatically.**

D. Click the **Gateway** tab and verify that the Installed Gateway field is blank. Click the **OK** button.

E. Click the **OK** button again. Windows may ask you for the original Windows installation disk or additional files. Supply them by pointing to the correct file location, e.g., D:\win98, D:\winxx, c:\windows\options\cabs, etc. (This assumes that "D" is the letter of your CD-ROM drive).

F. If Windows asks you to restart your PC, click the **Yes** button. If Windows does not ask you to restart, restart your computer anyway.

*Note: Do not choose a TCP/IP line whose name mentions DUN, PPPoE, PPPoE, VPN, or AOL.

**Note: If there is no TCP/IP line listed, refer to the User Guide found on the Setup Wizard CD-ROM or your Ethernet adapter's documentation to install TCP/IP now.

If you are running:
Windows 2000

A. Click the **Start** button, click **Settings** and open the **Control Panel**. From there, double-click the **Network and Dial-up Connections** icon. This will display the Network screen.

B. Select the **Local Area Connection** icon for the applicable Ethernet adapter (usually it is the first Local Area Connection listed). Double-click the **Local Area Connection** and click the **Properties** button.

C. Select **Internet Protocol (TCP/IP)** and click the **Properties** button.

D. Select **Obtain an IP address automatically** and click the **OK** button on the subsequent screens to complete the PC's configuration.

E. Restart your computer.

If you are running:
Windows XP

The following instructions assume you are running Windows XP's default interface. If you are using the Classic interface (where the icons and menus look like previous Windows versions), please follow the instructions for Windows 2000.

A. Click the **Start** button, open the **Control Panel**, and click the **Network and Internet Connections** icon. Then, click the **Network Connections** icon to display the Network screen.

B. Select the **Local Area Connection** icon for the applicable Ethernet adapter (usually it is the first Local Area Connection listed). Double-click the **Local Area Connection** and click the **Properties** button.

C. Select **Internet Protocol (TCP/IP)** and click the **Properties** button.

D. Select **Obtain an IP address automatically** and click the **OK** button on the subsequent screens to complete the PC's configuration.

E. Restart your computer.

Introduction

Thank you for choosing the Wireless-B Broadband Router. This Router will allow you to set up a network with your PCs and even share your Internet connection.

How does the Router do all of this? By connecting your cable or DSL modem directly to the Router and using the Router's Ethernet ports to connect your PCs, it's almost as if each PC is connected directly to the Internet. In this way, you can have several PCs utilizing one Internet connection simultaneously. Plus, because it's also an Access Point, the Router can bridge your Ethernet network with your wireless PCs.

But what does all of this mean?

Networks are useful tools for sharing computer resources. You can access one printer from different computers and access data located on another computer's hard drive. Networks are even used for playing multiplayer video games. So, networks are not only useful in homes and offices, they can also be fun.

The PCs you connect to the Router's four LAN ports, when properly configured, create a LAN, or Local Area Network. They are connected with an Ethernet cable plugged into your computer's Ethernet adapter at one end and into one of the Router's LAN ports (numbered from one to four) at the other end. The term "Ethernet" is used to refer to your network accessories, such as cables and adapters, because Ethernet refers to the type of network you are setting up. In your Router's documentation, Ethernet refers to accessories that transfer computer data from 10Mbps to 100Mbps. (10Mbps and 100Mbps refer to the speeds used by network devices. When transferring data at 10Mbps, you are moving the equivalent of over seven floppy disks every second! Network accessories that function at 100Mbps move data ten times faster!)

PCs can also interact with the Router wirelessly. By configuring your wireless PCs with the same wireless settings as the Router, you can bridge these wireless PCs while integrating them into your existing Ethernet network.

Perhaps the most remarkable thing the Router does is to allow you to share your cable or DSL connection. This is done by connecting your cable or DSL modem to the Router's Internet port with an Ethernet cable. The Internet is a network that, being global, covers the widest area of all! The PCs connected to the Router share this connection.

Use the instructions in this Fast Start to help you connect the Router, configure your PCs, and configure the Router in your network. These instructions should be all you need to get you up and running with a basic network, sharing your Internet access. The Router also comes equipped with more advanced functions, but these functions should not be utilized without a further understanding of routers and networks. These and other issues are explained in the User Guide on the Setup Wizard CD-ROM.

This is What You Will Be Setting Up

The Router's setup is similar to that shown in the figure above for any Windows PC. The Router lets you share your cable or DSL connection among several computers in your home or business. This is called a Local Area Network or LAN.

This Fast Start guide gives you the "big picture" of what you need to set up a basic home or business network. The next three sections explain how you will set up and configure your equipment to enable shared high-speed access to the Internet.

Step 1: Connect the Router
This walks you through the process of connecting the Router to your cable or DSL modem. Then, it shows you how your PCs are connected to the Router.

Step 2: Configure the PCs
This describes how your PCs are configured to communicate with the Router.

Step 3: Configure the Router
This step walks you through some basic Router settings, making it work with your cable or DSL modem and your ISP's settings.

Note: This Fast Start guide will direct you how to set up the Router with Ethernet cables. While the Router can be set up through a wireless connection, details about setting up the Router wirelessly will not be addressed in this Fast Start guide. Those who wish to set up the Router through their wireless connection should refer to the Setup Utility or in the User Guide located on the Setup Wizard CD.

WAN

Cable or DSL Modem

Notebook with Wireless Adapter

LAN

Wireless-B Broadband Router

PC with Ethernet Adapter

Step 1: Connect the Router

In Step 1, you will connect the Router to your cable or DSL modem and to your home or business computers.

First, make sure that all devices you'll be working with are powered down, including your PCs, modem, and the Router.

A. If you haven't already done so, connect your cable or DSL modem to its proper connection—the coaxial jack for cable (Figure A1), or the phone jack for DSL (Figure A2). (Follow the instructions from your cable or DSL modem's installation guide.)

A1

A2

B. Using an Ethernet cable, connect the LAN or Ethernet port of the cable or DSL modem to the Router's Internet port.

B

C. Connect an Ethernet cable to your PC's Ethernet adapter. Connect the other end of the cable to one of the Router's Ethernet ports (1-4). Repeat this process for every PC you wish to connect to the Router.

Note: If your PC's Ethernet adapter is not set up, please refer to the Ethernet adapter's documentation for more information.

C1

Note: For ease of installation, start with Ethernet Port 1 on the Router, then Port 2, Port 3, and finally Port 4.

C2

D. Connect the power adapter to the Router's Power port. Then, connect the power adapter to an electrical outlet. Turn on the cable or DSL modem. Then turn on the first PC you wish to use when configuring the Router.

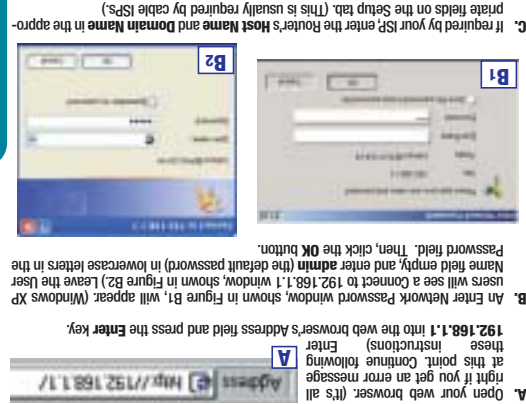**Proceed to Step 2: Configure the PCs on the next page.**
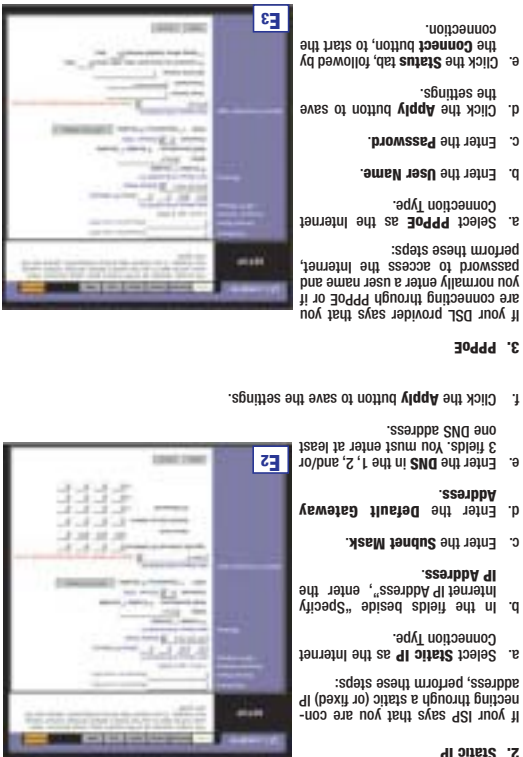
Step 3: Configure the Router

The instructions from your ISP tell you how to set up your PC for Internet access. Since you are now using the Router to share Internet access among several computers, you will use this setup information for the Router configuration.

In Step 3, you will configure the Router to function in your network and gain access to the Internet through your Internet Service Provider (ISP). Your ISP may require the use of a Host Name and Domain Name. Further, you will set the Internet Configuration Type on the Router's Setup tab from the information given by your ISP. You will need this setup information from your ISP. If you do not have this information, please contact your ISP before proceeding. To find out what questions you should ask your ISP, refer to question #1 in the Help section.

A. Open your web browser. (It's all right if you get an error message at this point. Continue following these instructions.) Enter **192.168.1.1** into the web browser's Address field and press the **Enter** key.

B. An Enter Network Password window, shown in Figure B1, will appear. (Windows XP users will see a Connect to 192.168.1.1 window, shown in Figure B2.) Leave the User Name field empty, and enter **admin** (the default password) in lowercase letters in the Password field. Then, click the **OK** button.

C. If required by your ISP, enter the Router's **Host Name** and **Domain Name** in the appropriate fields on the Setup tab. (This is usually required by cable ISPs.)

D. To configure the Router for your wireless network, verify that the Setup tab's Wireless fields (shown in Figure D) are completed as follows:

Enable/Disable: Selecting the Enable radio button will enable the Router's wireless feature. Wireless functions will not be available unless enabled.

SSID: The SSID (or ESSID) is a unique name for your wireless network. It is case sensitive and must not exceed 32 characters. The default SSID is "linksys " but you should change this to a personal wireless network name. All wireless points in your network must use the same SSID.

Channel: Select the appropriate channel for your network from the list provided. All wireless points in your network must use the same channel in order to function properly.

Do not change the WEP setting from the default, "Disabled", without first referring to the Wireless Security sections of the User Guide or Setup Wizard CD-ROM for advanced features and settings.

E. The Router supports five connection types: DHCP (obtain an IP automatically), PPPoE, Static IP Address, RAS, and PPTP. These types are selected from the pull-down menu beside **Internet Connection Type**. The Setup screen and available features will differ depending on what kind of connection type you select, the instructions for which are included here:

1. Obtain an IP Automatically

If your ISP says that you are connecting through a dynamic IP address (or DHCP), perform these steps:

a. Select **Obtain an IP automatically** as the Internet Connection Type (as previously shown in Figure D).

b. Click the **Apply** button to save the settings.

2. Static IP

If your ISP says that you are connecting through a static (or fixed) IP address, perform these steps:

a. Select **Static IP** as the Internet Connection Type.

b. In the fields beside "Specify Internet IP Address", enter the **IP Address**.

c. Enter the **Subnet Mask**.

d. Enter the **Default Gateway Address**.

e. Enter the **DNS** in the 1, 2, and/or 3 fields. You must enter at least one DNS address.

f. Click the **Apply** button to save the settings.

3. PPPoE

If your DSL provider says that you are connecting through PPPoE or if you normally enter a user name and password to access the Internet, perform these steps:

a. Select **PPPoE** as the Internet Connection Type.

b. Enter the **User Name**.

c. Enter the **Password**.

d. Click the **Apply** button to save the settings.

e. Click the **Status** tab, followed by the **Connect** button, to start the connection.

4. RAS

RAS is a service used in Singapore only. If you are using a RAS connection, check with your ISP for the necessary setup information.

a. Select **Static IP** as the Internet Connection Type.

5. PPTP

PPTP is a service used in Europe only. If you are using a PPTP connection, check with your ISP for the necessary setup information.

F. If you haven't already done so, click the **Apply** button to save the settings.

G. Reset the power on your cable or DSL modem and restart your computers. They will now obtain the Router's new settings.

Note: You only need to configure the Router from one computer. If you need advanced setting information, please refer to the Linksys support website at support.linksys.com or the User Guide on the Setup Wizard CD-ROM.

Congratulations! You've successfully configured the Router. You can test the setup by opening your web browser from any computer and entering www.linksys.com/registration.

[http://www.linksys.com/registration]

If you are unable to reach our website, you may want to review what you did in this section or refer to the help section in this Fast Start guide.

More advanced functions and additional details are available in the User Guide on the Setup Wizard CD-ROM or at the Linksys website, www.linksys.com.

Help

The Help section contains the most frequently asked Internet connection questions. If you have additional setup needs or you wish to get information on the Advanced Features, please visit kb.linksys.com or see the User Guide, which contains a Troubleshooting appendix (available on the Setup Wizard CD-ROM).

1. I'm not sure what information I need from my Internet Service Provider (ISP) to get my network up and running. What questions should I ask?

What type of connection do I have: dynamic IP address, static IP address, or PPPoE?

• If I am using a dynamic IP address, I should ask:
- What is my Host Name (if needed)?
- What is my Domain Name (if needed)?

• If I am using a static IP address, I should ask:
- Wizard of IP Address?
- What is my Gateway?
- What is my DNS?

• If I am using PPPoE (typically used by DSL ISPs), I should ask:
- What is my User Name?
- What is my Password?

After you obtain the information, follow the instructions in the Fast Start - Step 3: Configure the Router, and use this information to enter on the Setup tab. In the Internet Connection Type section, refer to the chart on the next page:

If you have this type of connection:	Perform these steps:
Dynamic IP Address (DHCP)	1. Select **Obtain an IP automatically** as the Internet Connection Type. 2. Click the **Apply** button to save the setting.
Static IP Address	1. Select **Static IP** as the Internet Connection Type. 2. Enter the **IP Address**. 3. Enter the **Subnet Mask**. 4. Enter the **Gateway Address**. 5. Enter the **DNS** in the 1, 2, and/or 3 fields. You need to enter at least one DNS address. 6. Click the **Apply** button to save the settings.
PPPoE	1. Select **PPPoE** as the Internet Connection Type. 2. Enter the **User Name**. 3. Enter the **Password**. 4. Click the **Apply** button to save the settings.
RAS or PPTP	If you are using RAS (Singapore SingTel) or PPTP (service in Europe), check with your ISP for the necessary setup information.

2. I'm having problems connecting to the Internet, what LEDs should be lit on the front of the Router?

• Each Router's LED will light up for any proper connection made on the back of the Router—whether it is an Ethernet cable or power cord.

For example, the following are typical LEDs that light up once a computer and a cable or DSL modem are connected:

- When the Router is turned on (the power adapter is plugged into the Router), the *Power* LED lights up.
- When an Ethernet cable is properly connected between a PC and Port 1, 2, 3, or 4 of the Router, the LED in the corresponding Column lights up.
- A cable or DSL modem connection causes the *Internet* LED to light up.
- A wireless connection causes the *Wireless-B* LED to light up.

• My *Internet* LED isn't lit. What should I check?
- Check that the cable you are using between your cable or DSL modem and the Router is the same cable that came with your modem. Depending on the type of connection your modem uses, you may need either a "straight-through" or "crossover" Ethernet cable (the "straight-through" type is more common).

• Some of the lights on the front of the Router don't light up when I plug in a PC.
- Only the *Ethernet* LED is required for a connection to work correctly.

3. I cannot get onto the Internet, nor can I access the Router's Setup page. What should I check?

A. First check that the cable or DSL modem and computers are properly connected to the Router. See Question #2 for how to verify that the connections are good.

B. Then, check that you have properly configured your PCs to communicate with the Router. Below you will find instructions for the various versions of Windows.

- Windows 95, 98, or ME
• Click the **Start** menu, and then click **Run**. After the Run window appears, enter **winipcfg** in the Open field, and then click the **OK** button.
• When the IP Configuration window appears, click the **gray box** with a black arrow pointing down.
• A list of adapters will appear. Select the **adapter** that you use to connect to the Internet. These items should not contain "PPP", "VPN", "AOL", or "Dial-Up adapter" as part of the entry.
• The IP Address field should show an IP address of 192.168.1.100 or 192.168.1.xxx, with "xxx" being any number greater than 100. If your IP address is not in that range, hold the reset button on the front of the Router for more than 30 seconds. This will cause your Router to be set to factory default, so you will need to re-configure the Router's Setup page. After re-configuring the Setup page, restart the computer.

- Windows NT, 2000, and XP
• Click the **Start** menu, and then click **Run**. After the Run window appears, enter **cmd** in the Open field, and then click the **OK** button.
• This will open a command prompt. Enter **ipconfig /all** and then press the **Enter** key.

• The IP Address field should show an IP address of 192.168.1.100 or 192.168.1.xxx, with "xxx" being any number greater than 100. If your IP address is not in that range, hold the reset button on the front of the Router for more than 30 seconds. This will cause your Router to be set to factory default, so you will need to re-configure the Router's Setup page. After re-configuring the Setup page, restart the computer.

C. Now you will configure some settings in Windows.

- Go to your desktop and double-click **My Computer**, and then double-click **Control Panel** (Windows XP users using the default interface, click **Start**, and then select **Control Panel**).
- When the Control Panel window pops up, double-click the **Internet Options** icon (Windows XP users using the default interface, click **Network and Internet Connections**, and then click **Internet Options**).
- When the Internet Options window appears, click the **Connections** tab.
- Check **Never Dial Up a Connection**. (If this choice is grayed out, that is fine.)
- Click the **LAN Settings …** button in the lower right-hand corner.
- When the Local Area Network (LAN) Settings window appears, **uncheck all boxes**.
- Click the **OK** button and the **Apply** button (the **Apply** button will be grayed out if you did not have to make any changes). Then click the **OK** button again.
- Exit the Control Panel, and restart your computer.

4. When I click on the icon to access the Internet, and enter the user name and password that my ISP gave me, I cannot connect to the Internet. What is wrong?

This means that you're using the software given to you by your ISP. Please use Internet Explorer or Netscape Navigator, which is located on your desktop (located on the Start Menu in Windows XP).

5. When I use Internet Explorer, a box pops up prompting me to dial up a connection. How can I disable that?

A. Go to your desktop and double-click **My Computer**, and then double-click **Control Panel** (Windows XP users using the default interface, click **Start**, and then select **Control Panel**).
B. When the Control Panel window pops up, double-click the **Internet Options** icon (Windows XP users using the default interface, click **Network and Internet Connections**, and then click **Internet Options**).
C. When the Internet Options window appears, click the **Connections** tab.

D. Check **Never Dial Up a Connection**.
E. Click the **Apply** button.
F. Click the **OK** button.

6. I get no signal strength or link quality or signal strength, what can I do?

A. Verify that the Router's Wireless-B LED is illuminated.
B. Verify that all of your wireless PCs are using "Infrastructure" mode.

7. How can I improve the Router's range?

A. Verify that the Router is as high off of the ground as possible.
B. Verify that there are no large sources of electrical interference nearby. (For example: speakers breaker boxes, florescent lights, microwaves, etc.)
C. Change the wireless channel being used. To do this:

- Open your web browser and type **http://192.168.1.1** into the "Address" field.
- In the "Enter Network Password" box, leave the "User Name" field blank and type **admin** as the password. Then, click **OK**.
- From the Setup tab, change the channel to **1**.
- Click the **Apply** button to save the settings.
- Continue doing this until you find the channel that provides the best range.

8. I tried the suggestions above and still cannot get access to the Internet from my Router. What can I do?

You can refer to the Troubleshooting appendix of the User Guide on the Setup Wizard CD-ROM, or you can get additional assistance through one of the resources listed below.

Technical Support	800-326-7114 (toll free from U.S. or Canada)
Email Support	support@linksys.com
Website	http://www.linksys.com or http://support.linksys.com
FTP Site	ftp://ftp.linksys.com
Sales Information	800-546-5797 (800-LINKSYS)